

STN 4/15/04

=> d ibib ab L10 59-63, 66-68

L10 ANSWER 59 OF 69 CABA COPYRIGHT 2004 CABI on STN  
ACCESSION NUMBER: 1999:91587 CABA  
DOCUMENT NUMBER: 19990705378  
TITLE: Correlation between appearance of embryogenic cells  
and the IAA levels in rice somatic cell culture  
AUTHOR: Chen YiFeng; Zhou Xie; Tang RiSheng; Zhang JinYu;  
Mei ChuanSheng; Chen, Y. F.; Zhou, X.; Tang, R. S.;  
Zhang, J. Y.; Mei, C. S.  
CORPORATE SOURCE: Agronomy Department, Nanjing Agricultural  
University, Nanjing 210095, China.  
SOURCE: Acta Botanica Sinica, (1998) Vol. 40, No. 5, pp.  
474-477. 10 ref.  
ISSN: 0577-7496  
DOCUMENT TYPE: Journal  
LANGUAGE: Chinese  
SUMMARY LANGUAGE: English  
ENTRY DATE: Entered STN: 19990707  
Last Updated on STN: 19990707

AB A study was made of changes in the endogenous IAA level and IAA effects in  
cultured rice somatic cells during the period from 7th to the 15th day  
(the transition from somatic to embryogenic cells). Endogenous IAA  
contents increased greatly in calli from young panicles under normal  
osmotic conditions and calli from **mature** caryopses under high  
osmotic conditions but decreased in calli from **mature** caryopses  
under normal osmotic conditions. Exogenous IAA induced the appearance of  
embryogenic cells in non-embryogenic callus at a low frequency, while  
**TIBA** increased the frequency of embryogenic cell induction. Since  
2,4-D was included in all induction media at the same concentration but  
showed different effects on embryogenic cell induction, it was suggested  
that it might act through mediating the endogenous IAA metabolism.

L10 ANSWER 60 OF 69 CABA COPYRIGHT 2004 CABI on STN  
ACCESSION NUMBER: 1999:32740 CABA  
DOCUMENT NUMBER: 19991602041  
TITLE: **Somatic embryogenesis** and plant  
regeneration in callus culture of tef, *Eragrostis*  
tef (Zucc.) Trotter  
AUTHOR: Kebebew, A.; Gaj, M. D.; Maluszynski, M.  
CORPORATE SOURCE: Debre Zeit Agricultural Research Center, PO Box 32,  
Debre Zeit, Ethiopia.  
SOURCE: Plant Cell Reports, (1998) Vol. 18, No. 1/2, pp.  
154-158. 14 ref.  
ISSN: 0721-7714  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
ENTRY DATE: Entered STN: 19990310  
Last Updated on STN: 19990310

AB The study was carried out to establish in vitro culture conditions for  
plant regeneration of tef. **Mature** seeds of two Ethiopian  
varieties, DZ-01-354 and DZ-01-196, were used to initiate callus cultures  
on Murashige and Skoog (MS) medium with different auxins. Four- and  
8-week-old calli induced on a medium with 2.0 mg 2,4-D/litre were  
subcultured onto various media to induce **somatic**  
**embryogenesis**. Compact, nodulated, embryogenic callus was observed  
after transfer onto MS-callus proliferating (CP) medium. Embryogenic  
tissue appeared on soft and amorphous callus and developed into  
**somatic embryos** during a subsequent subculture to MS  
embryo-promoting (EP) media. Various growth regulator combinations were  
tested in CP and EP media to obtain a high efficiency of **somatic**  
**embryo** formation. The highest frequency of calli-forming  
**somatic embryos** (56.1-68.3%) was observed when CP media

with 2.0 or 4.0 mg 2,3,5-**triiodobenzoic** acid/litre were employed and cultures were then transferred to EP media with 0.5 mg 2,4-D and 0.5 mg kinetin/litre followed by 0.5 mg IAA and 0.5 mg N6-benzyladenine/litre. Plant development from **somatic embryos** was obtained on MS medium supplemented with 1.0 mg gibberellic acid/litre. On average, 71.2% of calli displaying **somatic embryos** converted into plants. Regenerated plants were successfully transferred to soil. Neither chlorophyll-deficient plants nor morphological variants were found among regenerants. All regenerated plants were fertile.

L10 ANSWER 61 OF 69 CABA COPYRIGHT 2004 CABI on STN  
 ACCESSION NUMBER: 97:127212 CABA  
 DOCUMENT NUMBER: 19970709105  
 TITLE: Direct **somatic embryogenesis** and plant regeneration from **mature** sugarbeet (Beta vulgaris L.) zygotic cotyledons  
 AUTHOR: Kulshreshtha, S.; Coutts, R. H. A.  
 CORPORATE SOURCE: Department of Biology, Imperial College of Science, Technology and Medicine, Prince Consort Road, London SW7 2BB, UK.  
 SOURCE: Plant Growth Regulation, (1997) Vol. 22, No. 2, pp. 87-92. 14 ref.  
 ISSN: 0167-6903  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ENTRY DATE: Entered STN: 19971112  
 Last Updated on STN: 19971112

AB A description is given of an in vitro protocol for direct **somatic embryogenesis** of zygotic cotyledons from **mature** sugarbeet embryos. Explants were sequentially cultured on modified Murashige and Skoog (MS) medium supplemented with different combinations of 2,4-D, NAA, benzylaminopurine [benzyladenine] (BAP) and **TIBA**. **Somatic embryogenesis** was induced within 4 weeks of culture on embryogenesis induction medium which consisted of MS medium supplemented with BAP and **TIBA**. Proliferation of **somatic embryos** was observed on embryo proliferation medium, which consisted of MS medium supplemented with BAP and NAA. Plants were regenerated on hormone-free half-strength MS medium containing a low sucrose concentration. With some sugarbeet lines, frequencies of plant regeneration in excess of 90% were observed. The inclusion of **TIBA** in the media was essential for successful regeneration.

L10 ANSWER 62 OF 69 USPATFULL on STN  
 ACCESSION NUMBER: 95:78101 USPATFULL  
 TITLE: Isolated microscope and anther culture of maize  
 INVENTOR(S): Genovesi, Anthony D., Sycamore, IL, United States  
 Yingling, Richard A., DeKalb, IL, United States  
 PATENT ASSIGNEE(S): DeKalb Genetics Corporation, DeKalb, IL, United States  
 (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5445961		19950829
APPLICATION INFO.:	US 1992-992637		19921218 (7)
DISCLAIMER DATE:	20110621		
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1990-543957, filed on 26 Jun 1990, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Chereskin, Che S.		
LEGAL REPRESENTATIVE:	Arnold, White & Durkee		
NUMBER OF CLAIMS:	14		
EXEMPLARY CLAIM:	1,11		

NUMBER OF DRAWINGS: 18 Drawing Figure(s); 18 Drawing Page(s)  
LINE COUNT: 2036

AB This invention relates to the regeneration of fertile monocotyledonous plants from a plant composition that contains microspores. A method of the present invention comprises preculturing a plant composition under a plurality of stressful conditions that promote embryogenesis, isolating microspores at a temperature below about 25.degree. C., culturing the microspores in an embryoid/calli induction medium and regenerating a plant from an embryoid/calli. A solid, porous support system for transferring isolated microspores through a series of subcultures containing different media is also provided. The composition of the media are aspects of the invention.

L10 ANSWER 63 OF 69 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 95:161490 CABA

DOCUMENT NUMBER: 19951610178

TITLE: **Somatic embryogenesis** from integument (perisperm) cultures of coffee

AUTHOR: Sreenath, H. L.; Shanta, H. M.; Babu, K. H.; Naidu, M. M.

CORPORATE SOURCE: Tissue Culture Division, Coffee Board, Manasagangothri, Mysore 570 006, Karnataka, India.

SOURCE: Plant Cell Reports, (1995) Vol. 14, No. 10, pp. 670-673. 23 ref.  
ISSN: 0721-7714

DOCUMENT TYPE: Journal

LANGUAGE: English

ENTRY DATE: Entered STN: 19950921

Last Updated on STN: 19950921

AB **Somatic embryogenesis** was induced in integument (perisperm) cultures of the C x R genotype S-2569 (derived from the cross *Coffea congestica* x *C. canephora*) after a culture period of 15 months, using a sequence of 3 modifications of MS medium. Vigorously growing soft, white, watery crystalline calluses were obtained on MS medium supplemented with 1 mg 2,3,5-**triiodobenzoic acid (TIBA)**, 50 mg L-cysteine HCl and 100 mg polyvinylpyrrolidone (PVP)/litre. After 45 days the calluses were subcultured to MS medium containing 0.5 mg IAA, 0.05 mg 2,4-D and 8.6 mg kinetin/litre, on which they were maintained for 9 months. After 5-6 months on this medium callus proliferation slowed down and the calluses turned light brown and compact. When calluses were transferred to MS medium supplemented with 10 mg thiamine HCl, 3 mg pyridoxine HCl, 2 mg nicotinic acid, 0.2 mg 2,4-D and 2.5 mg isopentenyladenine/litre and cultured for 2 months, they turned darker, more compact and proliferation almost stopped. These calluses were subcultured onto fresh medium of the same composition. After another 2 months of culture, cream-coloured, highly friable, embryogenic calluses appeared, which in turn produced a few clearly identifiable **somatic embryos** after a month. Further proliferation and **maturation of somatic embryos** was achieved by culturing the embryogenic calluses on MS medium supplemented with 1 mg abscisic acid for 3 months. **Somatic embryos** germinated and regenerated into 2 cm tall plantlets after 2-3 subcultures, each of 2 months duration on half-strength MS medium containing 0.1 mg kinetin/litre.

L10 ANSWER 66 OF 69 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 92:24520 CABA

DOCUMENT NUMBER: 19920311035

TITLE: Factors affecting morphogenesis from immature cotyledons of *Phaseolus coccineus* L

AUTHOR: Genga, A.; Allavena, A.

CORPORATE SOURCE: Istituto Sperimentale per l'Orticoltura, 20075 Montanaso L, Milan, Italy.

SOURCE: Plant Cell, Tissue and Organ Culture, (1991) Vol. 27, No. 2, pp. 189-196. 5 pl. 21 ref.  
ISSN: 0167-6857

DOCUMENT TYPE: Journal

LANGUAGE: English

ENTRY DATE: Entered STN: 19941101

Last Updated on STN: 19941101

AB Direct **somatic embryogenesis** as well as **somatic embryogenesis** and organogenesis mediated by small glossy calluses were obtained from immature cotyledon explants of runner bean, cv. Streamline 770, on a modified half-strength MS medium containing various concentrations of 2iP and 2-naphthoxyacetic acid. Substitution of sucrose with glucose gave, in the range of concentrations tested, the strongest enhancement of the morphogenic process. Further improvement in the number of morphogenic cotyledons, the number of regenerations per cotyledon and the quality of the embryos was observed when **TIBA** or abscisic acid were added to the medium. After cycles of micropropagation on MS medium + 4.4 [mu]M benzyladenine and rooting in the absence of growth factors, plantlets were adapted to ex vitro conditions and grown to **maturity**.

L10 ANSWER 67 OF 69 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN

ACCESSION NUMBER: 1988:441211 BIOSIS

DOCUMENT NUMBER: PREV198886093309; BA86:93309

TITLE: MICROAMPUTATION OF **SOMATIC EMBRYOS** OF THE DOMESTIC CARROT REVEALS APICAL CONTROL OF AXIS ELONGATION AND ROOT REGENERATION.

AUTHOR(S): SCHIAVONE F M [Reprint author]

CORPORATE SOURCE: PLANT DEV LAB, DEP BOTANY, UNIV MARYLAND, COLLEGE PARK, MD 20742, USA

SOURCE: Development (Cambridge), (1988) Vol. 103, No. 4, pp. 657-664.

CODEN: DEVPED. ISSN: 0950-1991.

DOCUMENT TYPE: Article

FILE SEGMENT: BA

LANGUAGE: ENGLISH

ENTRY DATE: Entered STN: 4 Oct 1988

Last Updated on STN: 4 Oct 1988

AB Somatic heart- and torpedo-stage embryos of the domesticated carrot, *Daucus carota* L., were severed at their midlengths to produce two halves termed apical and basal pieces. These pieces may be grafted or kept separate. Grafted embryos developed normally, with the exception that they tended to **mature** earlier than uncut control embryos. If kept separate, the apices grew at rates similar to grafted apices, while the basal ends, behaving as if they had been released from an inhibition of growth, rapidly elongated and **matured** (e.g. produced root hairs and a root cap) 3-4 days earlier than uncut controls. Grafted embryos treated with the transport inhibitor **TIBA** (2,3,5-**triiodobenzoic** acid) had basal sections that behaved as if the sections had been kept separate. Additionally, resupplying IAA (indole-3-acetic acid) via a novel wick-bridge forced isolated basal pieces to behave as if the embryo apex were present. This apparent inhibition of root growth by the apex appears to be controlled by either the polar transport of auxin, and/or the accumulation of auxin at the root end. These experiments suggest that polar auxin transport has a greater influence on root, rather than on apex, development in these embryos.

L10 ANSWER 68 OF 69 CABA COPYRIGHT 2004 CABI on STN

ACCESSION NUMBER: 87:35635 CABA

DOCUMENT NUMBER: 19871660241

TITLE: Embryogenic callus induction and plant regeneration from cultured *Hordeum vulgare* **mature** embryos

AUTHOR: Rengel, Z.  
 CORPORATE SOURCE: Dep. Plant Nutrition, Fac. Agric. Sci., Univ.  
 Zagreb, 41 000 Zagreb, Yugoslavia.  
 SOURCE: Plant Physiology and Biochemistry, France, (1987)  
 Vol. 25, No. 1, pp. 43-48. 21 ref.  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 SUMMARY LANGUAGE: French  
 ENTRY DATE: Entered STN: 19941101  
 Last Updated on STN: 19941101

AB When nonembryogenic calluses induced on embryos of 8 barley lines cultured on modified Murashige & Skoog (MS) medium supplemented with 2,4-D were subcultured on the same medium, embryogenic callus was formed in 7 of the lines. **Somatic embryoids**, some of which resembled zygotic embryos, appeared on the surface of the embryogenic callus, and plants were regenerated on modified MS medium with **TIBA**. Genotypic differences in callus induction frequency were significant, but these differences are attributed to genotype X medium interactions and differences in the physiological status of donor plants; it is thought that all genotypes are able to respond in culture under appropriate conditions.

=> d his

(FILE 'HOME' ENTERED AT 15:58:02 ON 15 APR 2004)

INDEX 'AGRICOLA, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHNO, CABA, CAPLUS, CBNB, CIN, CONFSCI, CROPB, CROPU, DISSABS, ESBIODBASE, FEDRIP, FOMAD, FOREGE, FROSTI, FSTA, GENBANK, IFIPAT, INVESTEXT, LIFESCI, NAPRALERT, NTIS, PASCAL, PHIC, PHIN, PROMT, SCISEARCH, ...' ENTERED AT 16:04:08 ON 15 APR 2004

SET DETAIL ON

SEA PCIB ORCHLOROPHENOXYISOBUTYRIC OR TIBA OR TRIIODOBENZOIC OR

-----  
 303 FILE AGRICOLA  
 48 FILE BIOBUSINESS  
 761 FILE BIOSIS  
 65 FILE BIOTECHNO  
 1034 FILE CABA  
 1800 FILE CAPLUS  
 2 FILE CIN  
 13 FILE CONFSCI  
 303 FILE CROPB  
 186 FILE CROPU  
 60 FILE DISSABS  
 107 FILE ESBIODBASE  
 2 FILE FEDRIP  
 2 FILE FROSTI  
 47 FILE FSTA  
 18 FILE GENBANK  
 119 FILE IFIPAT  
 25 FILE INVESTEXT  
 46 FILE LIFESCI  
 3 FILE NTIS  
 276 FILE PASCAL  
 103 FILE PROMT  
 414 FILE SCISEARCH  
 1741 FILE USPATFULL  
 88 FILE USPAT2  
 9 FILE AQUASCI  
 83 FILE BIOTECHABS  
 83 FILE BIOTECHDS

86 FILE CANCERLIT  
 13 FILE CEABA-VTB  
 1 FILE CEN  
 44 FILE DDFB  
 8 FILE DDFU  
 44 FILE DRUGB  
 9 FILE DRUGMONOG2  
 10 FILE DRUGU  
 93 FILE EMBASE  
 1 FILE HEALSAFE  
 8 FILE IMSPRODUCT  
 68 FILE JICST-EPLUS  
 1552 FILE MEDLINE  
 6 FILE NIOSHTIC  
 1 FILE OCEAN  
 4 FILE RDISCLOSURE  
 1 FILE SYNTHLINE  
 931 FILE TOXCENTER  
 1 FILE VETB  
 2 FILE VETU  
 144 FILE WPIDS  
 144 FILE WPINDEX  
 108 FILE CAOLD  
 23 FILE CASREACT  
 15 FILE DPCI  
 4 FILE ENCOMPPAT2  
 513 FILE EUROPATFULL  
 2 FILE FRANCEPAT  
 63 FILE INPADOC  
 19 FILE JAPIO  
 11 FILE PAPERCHEM2  
 2 FILE PATDPA  
 260 FILE PATDPAFULL  
 10 FILE PATOSEP  
 4 FILE PATOSWO  
 542 FILE PCTFULL  
 4 FILE PIRA  
 26 FILE RAPRA  
 5 FILE TULSA  
 4 FILE TULSA2

L1 QUE PCIB ORCHLOROPHENOXYISOBUTYRIC OR TIBA OR TRIIDOBENZOIC OR

-----  
 SEA L1 AND SOMATIC(W) EMBRYO?  
 -----

9 FILE AGRICOLA  
 1 FILE BIOBUSINESS  
 30 FILE BIOSIS  
 7 FILE BIOTECHNO  
 33 FILE CABA  
 28 FILE CAPLUS  
 1 FILE CROPB  
 10 FILE CROPU  
 3 FILE DISSABS  
 11 FILE ESBIODASE  
 1 FILE IFIPAT  
 4 FILE LIFESCI  
 13 FILE PASCAL  
 26 FILE SCISEARCH  
 126 FILE USPATFULL  
 11 FILE USPAT2  
 19 FILE BIOTECHABS  
 19 FILE BIOTECHDS  
 1 FILE CEABA-VTB

3 FILE EMBASE  
1 FILE MEDLINE  
1 FILE WPIDS  
1 FILE WPINDEX  
1 FILE DPCI  
3 FILE EUROPATFULL  
2 FILE INPADO  
1 FILE PATOSEP  
1 FILE PATOSWO  
8 FILE PCTFULL  
L2 QUE L1 AND SOMATIC(W) EMBRYO?  
-----

FILE 'USPATFULL, CABA, BIOSIS, CAPLUS' ENTERED AT 16:13:53 ON 15 APR 2004

L3 217 S L2  
L4 170 DUP REM L3 (47 DUPLICATES REMOVED)  
L5 94 S L4 NOT PY>2000  
L6 0 S L5(S) EMBRYONIC(W) CELL(W) MASS  
L7 0 S L5 AND EMBRYONIC(W) CELL(W) MASS  
L8 604343 S MATUR?  
L9 69 S L5 AND L8  
L10 69 DUP REM L9 (0 DUPLICATES REMOVED)

=>